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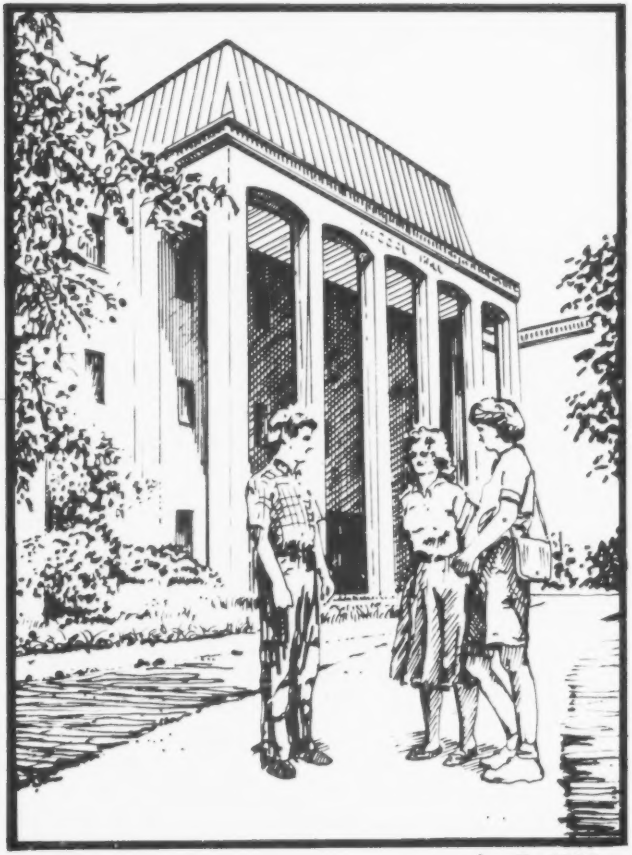
MISSISSIPPI BUSINESS REVIEW



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The majority of our readership is businessmen and this is the essential parameter used in evaluating articles for publication. Specifically, the article can be related to any subject in Business and Economics. It may be a presentation of results of a study by the author, a well supported opinion on a current topic or an application of some theoretical aspect of business or economics that might be applicable to the businessman. The article should be well supported, and should avoid an overly technical presentation.

The article should run 14 to 16 double spaced, typewritten pages with a 72 space line. Maximum length for one part articles should be approximately 6000 words or 24 double spaced typewritten pages with a 72 space line. Longer articles will have to be condensed or considered as a multi-part series.

Photographic illustrations should be glossy prints of sufficient size, contrast and quality for reproduction. Graphs, tables and drawings may be submitted in rough form. However, should the article be accepted the author should furnish us with finished, camera-ready illustrations.

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ABER MEMBER

Retail Site Selection: A Study of Methods Used by Retailing Executives

By
Dr. Carol H. Anderson, Dr. Blaise J. Bergiel
and
Dr. Ronald D. Taylor

Abstract

Chain store executives were surveyed to determine methods of analysis used in store location decisions. The data suggest that despite the sophisticated statistical techniques available, these high level executives place more emphasis on their own personal judgment and a checklist of important locational criteria than they do on quantitative models.

Introduction

Store location is often considered the most important factor in a retailer's success. In the chain store environment merchandise lines to be carried, customer services, personnel policies, and even optimum store size may be determined at corporate headquarters. When it comes to locating a new unit in the chain, site selection involves a unique and critical decision process for each occurrence. As chain stores enjoy rapid expansion, increased emphasis is placed on choosing the most profitable site.

Many researchers have investigated ways to optimize strategic site location decisions. Some sites are located in the traditional shopping mall, strip center, or in the wide-open spaces as a free standing unit. Some may be located many levels above the ground in a high rise former office building, converted into combination office, residential, entertainment, and retail space (Muhlebach and Ryan 1982) or underground in Manhattan (Friedman 1981). Some sites may be in high density, inner city sectors that require security fences (Warner 1982) or condominium shopping centers downtown (Peterson 1982). Wherever the retailer chooses to locate the new unit, the firm must concentrate on maximizing profits and return on investment. This requires creative strategies in the "place" component of the marketing mix. **Location, location, location** are often said to be the three critical keys to a retailer's success. For example, the New Jersey-based Toys 'R Us chain makes a point of only taking prime sites for their stores, often taking existing stores and adding small outposts specialty shops. Their insistence on prime sites and vigorous negotiation yields benefits beyond the sales revenues generated by the Toys 'R Us stores themselves (Spaulding 1982). Gerland's, a small grocery chain in Houston, has had outstanding success in expanding their chain, primarily due to considering site selection the most important decision they can make about a new store (Tanner 1981).

Retailing literature is replete with lists of variables to consider and models to use when locating a new store. Central place theory, Reilly's Law of Retail Gravitation, Huff's model, and the customer interviewing technique are often discussed in the journals and retailing textbooks. A number of contemporary location models have been developed, such as the MULTILOC (multiple store location) model conceived by Achabal, Gorr, and Mahajan (1982) as an extension of the MCI (multiplicative competitive interaction) model for op-

timal location of multiple units in a chain. Methods for determining sites for new stores may involve a complex mathematical model such as these or a checklist of important variables or executive intuition or anything in-between. This is the conceptual framework within which this study was conducted.

There seems to be more emphasis in the literature on the many strategic options available to retailers that they can use than on what methods retailing executives actually do use in making important site location decisions for new retail units. This study investigates the actual decision process used by practitioners in the field, rather than the possible theoretical approaches or specific "laundry lists" they might use.

Objectives

The purpose of this study is to determine the retail site selection methods used by the executives currently responsible for making these decisions. Specifically, the study addresses:

1. What methods of locational analysis do chain store executives use to determine the optimum site for new stores?
2. Does the age, education, or experience in making location decisions of the chain store executives have any impact on site selection methods?
3. Does the annual sales, age, or size of the chain, or type of retail stores in the chain have any impact on preferred site selection methods?

Research Methodology

A questionnaire was mailed in two waves to a random list of 410 chain store retailers obtained from **Sheldon's Retail Guide.** The questionnaire included items which allowed the retailers to indicate any and all methods of retail site selection that they use in their decision making process. Other items were designed to provide information about personal demographics and characteristics of their particular chain. Completion of the questionnaire required approximately 20 minutes. Self-addressed, stamped envelopes were provided for replies. No incentives were offered for participation in the study for the purpose of increasing response rate. Although much of the information asked for was sensitive in nature and no overt attempt was made to identify the respondents or their companies, most provided this information voluntarily. Usable responses were obtained from 115 top level chain store executives who were directly responsible for making location decisions for new stores in their organizations, resulting in an overall response rate of 28 percent. They had titles such as Vice-President of Operations or other corporate executive officers.

As a result of a review of the literature and discussion with retail location experts, various methods of locational analysis were identified. Site selection methods focused upon in this study include discriminant analysis, regression analysis, checklist method, maximum likelihood, and executive decision. Discriminant analysis was described to the executives as "an equation based on a linear function that predicts whether or not a store will be successful at a particular site;" regression analysis as "an equation based on a linear function that predicts the sales that will be associated with any site;" checklist method as "a method involving use of a checklist of several important factors to evaluate each site under consideration with these factors sometimes having quantitative values and weights assigned to them;" maximum likelihood as "a quantitative formula based upon the size of the site under consideration and the driving time needed by consumers to reach the site;" executive decisions as "a situation where one or more executives provide input into the decision based upon their opinions and experience." Retailing executives in the sample were asked to report the extent to which they use these or any other analytical methods in site selection. The demographic information which they provided about themselves included their level of education, age, length of time they had worked for their companies and the amount of experience they had in making store location decisions. They also provided information about their chains such as annual sales, number of stores, age, and major store classification.

A Profile of the Respondents

Chain store executives participating in this study had worked for their firms anywhere from 1 to 44 years. Seventy-four percent had been with their companies for over 5 years, with the average tenure being 12.5 years. Most had been making store location decisions for an average of ten years. Fifty-eight percent had made over 50 location decisions in their careers. The majority were in the 30 to 50 year old age bracket and had a college degree. Over 44 percent had some graduate college work beyond their undergraduate degrees or had a graduate degree. All in all, the respondents are a well-informed and experienced group of retailers. Executive demographics are presented in Table 1.

Table 1
Executive Demographics (Adjusted Frequencies)

Number of Location Decisions Made	Percentage of Sample	Years Making Location Decisions	Percentage of Sample
Less than 10	13.4	5 or less	33.0
11 to 25	17.0	6 to 10	28.7
26 to 50	11.6	11 to 15	16.5
51 to 100	14.3	16 to 20	13.9
101 to 250	15.2	Over 20	7.8
251 to 500	13.4		
Over 500			

Years Tenure With Company	Percent	Educational Level	Percent	Age	Percent
5 or less	66.5	High school grad	7.0	Under 30	5.2
6 to 10	27.0	Some college	13.0	30 to 40	30.4
11 to 15	14.8	College grad	35.7	41 to 50	34.8
16 to 20	13.9	Some grad school	18.3	51 to 60	20.9
Over 20	18.3	Graduate degree	26.1	Over 60	8.7

A Profile of the Retail Chains

A wide spectrum of chain stores was included in the sample. The majority of the chains were in the $100 million to $500 million annual sales range. However, a large number had sales in excess of $500 million a year. Nearly half of the chains had been in existence over 50 years, with 81 percent being over 20 years old. Sixty-four percent had over 100 stores, with 10 percent of the sample having from 1001 to 4000 stores. Store classifications included are department, apparel, discount, grocery, home furnishings and appliances, drug stores, restaurants, and others. Table 2 depicts characteristics of chain stores responding.

Table 2
Chain Store Characteristics (Adjusted Frequencies)

Annual Sales (Millions)	Percent	Age of Chain (Years)	Percent
Less than $100 M	23.2	Less than 10	2.7
$100 M to $500 M	42.0	10 to 20	13.5
Over $500 M	34.8	21 to 30	16.2
		31 to 40	11.7
		41 to 50	7.2
		Over 50	48.6

Store Classification	Percent	Number of Stores in Chain	Percent
Department	10.9	Less than 50	18.3
Apparel	21.8	50 to 100	27.8
Discount	22.7	101 to 200	21.7
Grocery	15.5	201 to 500	13.0
Home Furnishings & Appliances	10.9	501 to 1000	8.7
Restaurant	5.5	1001 to 4000	10.4
Drug	5.5		
Miscellaneous	7.2		

Results

Analysis Methods Preferred by Retail Executives

As described in the methodology section, the respondents were asked to what degree they used discriminant analysis, regression analysis, checklist method, maximum likelihood, executive decision, or any other means of analysis that entered into their strategic decision process for locating new stores. Generally, the data would indicate that these retailing decision makers do not use the quantitative methods (discriminant analysis, regression analysis, and maximum likelihood) as much in site evalution as they do the more subjective methods, the check list of important locational factors or the more intuitive executive decision. Of the more quantitative methods regression analysis is clearly the most popular. This finding is depicted in Table 3.

In addition to these five categories of locational analyses some chain store executives reported that they also used other techniques. While these responses varied, the most frequently cited "other" methods tended to be of the analog or gravitation model types, which often were described in terms similar to the checklist and maximum likelihood methods respectively. In particular, the analog and gravitation model approaches were listed in the "other" category by some of the discount and grocery chains participating in the study.

Table 3
Preferred Methods of Analysis for Retail Site Selection

Method	Percentage of Executives Who Use This Method Sometimes	Mean Percentage Of Usage By Executives Who Use This Method Sometimes	Mean Percentage Of Usage By All Executives (Including Those Who Never Use Method)
Discriminant Analysis	27.0 n=31	20.2	5.4
Regression Analysis	44.3 n=51	28.9	12.8
Checklist Method	33.0 n=31	37.1	10.0
Maximum Likelihood	37.4 n=43	24.8	9.3
Executive Decision	87.0 n=100	40.4	35.1
Other Methods	17.4 n=20	48.3	8.4

Differences in Usage of Methods

One-way analysis of variance was used to test for significant differences in variance of mean usage of the five major site selection methods for two sets of independent variables (chain characteristics and demographics associated with the executives responding). The harmonic mean was used in this analysis to compensate for unequal numbers of respondents in each group. Those differences significant at an alpha level of .10 or less are reported below. In very few instances did the between groups variance differ significantly from the within groups variance, indicating that mean usage of each of these methods is virtually the same for all retailers.

Significant Differences Based on Chain Characteristics. When the chain characteristics were contrasted to the locational methods employed, two significant findings surfaced. In the first case mean usage rate of the maximum likelihood method was found to vary by the size of retail chain ($a < .01$). The smallest chains, those having less than 50 stores, followed by chains with 101 to 200 stores, tend to use maximum likelihood the most (38.1 percent and 28.0 percent respectively). Those using maximum likelihood the least

are chains with 50 to 100 stores and those having more than 200 stores.

Table 4 shows group means for each size chain that uses this method.

Table 4
ANOVA: Maximum Likelihood Method with Size of Chain

Size of Chain (Number of Stores)	Mean Usage of Maximum Likelihood (Percent)	Standard Deviation
Under 50	38.1	24.5
50 to 100	15.5	8.2
101 to 200	28.0	7.9
201 to 500	18.0	4.5
501 to 1000	30.0	(only 1 respondent)
1001 to 4000	16.4	9.0
Total	24.8	17.5

F-ratio = 3.426

F-probability < .01

The second significant finding in the chain characteristics category is that the usage rate of the checklist method varies by type of store (a = .08). Restaurants indicated the highest usage (70.0 percent), followed by apparel (42.8 percent) and home furnishings and appliances stores (40.8 percent). Those using the checklist method the least were grocery, discount, and department stores. Convenience stores, which are included in the miscellaneous category due to a small number of respondents, reported that they use the checklist method a high percentage of the time (67.5 percent). Means for each of the store categories are presented in Table 5.

Table 5
ANOVA: Checklist Method with Store Classification

Store Classification	Mean Usage of Checklist Checklist Method (Percent)	Standard Deviation
Department	30.6	23.2
Apparel	42.8	30.1
Discount	28.5	16.8
Grocery	28.2	25.3
Home Furnishings and Appliances	40.8	25.0
Restaurant	70.0	30.0
Drug	38.3	30.8
Miscellaneous	41.7	26.4
Total	37.6	26.4

F-ratio = 1.922

F-probability < .08

Significant Differences Based on Executive Demographics. Two variables associated with the executives themselves (length of time they had worked for their company, and their education) revealed significant differences among group means for the emphasis they placed on regression analysis and the maximum likelihood method respectively. The heavy users of regression analysis were those who had been with the company for over 20 years. On the average, 50 percent of this group's analytical efforts involve regression analysis. Those who had been with their firms for less than 20 years tend to put about one-fourth of their analytical efforts into regression analysis. The difference in means was significant at the $a < .01$ level. Group means are reported in Table 6.

Table 6
ANOVA: Regression Analysis with Length of Time Worked for Company

Time Worked for Company (Years)	Mean Usage of Regression Analysis (Percent)	Standard Deviation
5 or less	25.8	11.0
6 to 10	23.6	12.1
11 to 15	24.4	15.4
16 to 20	23.1	17.9
Over 20	50.0	30.0
Total	28.9	19.8

F-ratio = 3.827

F-probability < .001

The amount of education that executives had attained accounted for significant differences ($a < .07$) in mean usage of maximum likelihood analysis in determining suitable store sites. Those with less than a college degree used maximum likelihood the most. Those with an undergraduate degree or higher used it less. See Table 7 for group means.

Table 7
ANOVA: Maximum Likelihood with Executives Education

Amount of Education	Mean Usage of Maximum Likelihood (Percent)	Standard Deviation
High School	61.4	29.7
Some college	32.3	14.9
College degree	40.4	26.9
Some graduate school	33.5	24.8
Graduate degree	30.7	26.4
Total	37.1	22.1

F-ratio = 2.261

F-probability < .07

Summary and Conclusions

While a wide range of analytical tools is available to chain store executives in their quest for the best site for a new retail unit, the data in the present study suggest there is little significant difference in their modes of analysis. It would appear that the final location decision rests largely on the retail executive and on some sort of a checklist of important factors. Whether quantitative methods are used or not, it is the ultimate reponsibility of the executive to make an appropriate decision.

The most used method, either by itself or in combination with other methods, is executive decision. A total of 87 percent of the executives depend heavily on executive decision, with this method representing 40.4 percent of their analytical efforts. The checklist method is the next most popular, representing 37.1 percent of the analytical effort for 73 percent of the sample. It is very possible that items from the checklist are incorporated into other methods as well. Type of store had an impact on degree of usage of the checklist method. Restaurants are the heavy users of the checklist, followed by apparel and home furnishings and appliance stores. It is least popular with grocery, discount, and department stores. The narrower appeal chains find a great deal of predictive utility in a checklist of important factors. Most restaurants, apparel, and home furnishing and appliance stores generally have a more limited product line and a more select target market. Thus, they can more readily pinpoint locational criteria on a checklist. On the other hand, grocery, discount, and department stores have broader merchandise lines and a wider range of customer types. Putting the store in the right place to provide a heterogeneous group of customers with a diverse array of products may require more extensive analysis.

Discriminant analysis is the least popular method for determining desirable retail sites, as it is used by approximately a fourth of the executives for 20 percent of their combined analytical efforts. Use of regression analysis appears to be related to the length of time the executive has worked for the chain. The greater the length of tenure, the more that regression analysis is used. For example, those who have been with the company over 20 years use regression for 50 percent of their analysis, while others tend to incorporate it as about one-fourth of their decision frame work. Perhaps added experience in site locations and company policies gives more insight into those variables that are most important to include in a regression model.

Executives responsible for store location in smaller chains and those who have a high school education tend to use maximum likelihood analysis significantly more than the larger chains or college educated executives. Evidently those executives who have less education or less opportunity to gain experience in making location decisions feel more secure in seeking a quantitative answer to aid their decision process. Heavier usage of maximum likelihood by smaller chains and less educated executives may indicate that they put more emphasis on size of the site and driving time for customers than on some other factors. This form of analysis may also be more manageable if they have less opportunity to utilize sophisticated statistical models and less experience in site selection analysis using a more extensive list of variables.

These findings suggest that despite the sophisticated quantitative techniques that are available, the corporate vice-presidents and other high level executives responding in this study rely heavily on their own decision making ability regardless of any personal differences in age, education, experience, or store characteristics. No executive in this study depended solely on quantitative techniques for making location decisions. At best the quantitative techniques are used for support purposes and then only by a small proportion of the respondents. Experience in making location decisions and tenure with the company apparently increase the usefulness of statistical models. It is conceivable that experience improves the decision maker's ability to identify important variables to include in statistical analysis. The data analysis discussed herein does not support the notion that complex mathematical or statistical models are at the forefront in evaluating sites for new chain store units. Executives need to be made more aware and more open to the use of statistical techniques; they should not rely only on subjective judgment for such a critical decision.

The results of this study suggest the need for further investigation into the decision making process involved in locating new retail units. Future research in the area might include a larger sample of decision makers at various levels in the organization to determine total input into the final store location decision. If decisions are made by a committee or someone in addition to the top level executives canvassed in this study, it would contribute to our understanding of location analysis to know who these other decision makers are, at what level in the organization they operate, and specifically what methods and criterion variables they include in their analysis.

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NEW AND EXPANDED INDUSTRY

Town Firm Product	No. of Employees
NEW	
Houston	
Superior Products Sales polyfoam	35
Thorncraft, Inc. furniture	25
EXPANDED	
Houlka	
Astro-Lounger Furniture Mfg. Co. furniture	20
Olive Branch	
Bush Hog Continental Gin cotton gin parts	40

Sales Indicated By Sales Tax Collections During February, 1985 - By County (000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,616	29,286	Hancock	549	10,933
Alcorn	792	15,101	Harrison	4,936	100,492
Amite	153	3,123	Hinds	11,048	218,534
Attala	368	6,756	Holmes	268	5,358
			Humphreys	207	3,706
Benton	56	954			
Bolivar	912	16,714	Issaquena	26	850
			Itawamba	220	4,363
Calhoun	284	6,607			
Carroll	74	1,352	Jackson	2,736	53,133
Chickasaw	345	6,899	Jasper	410	9,923
Choctaw	91	1,389	Jefferson	68	1,191
Claiborne	126	2,448	Jeff Davis	223	4,065
Clarke	231	5,022	Jones	2,304	43,926
Clay	357	7,076			
Coahoma	835	15,846	Kemper	103	1,840
Copiah	406	7,687			
Covington	513	3,378	Lafayette	714	12,948
			Lamar	456	8,304
DeSoto	928	17,636	Lauderdale	2,785	54,769
			Lawrence	230	4,801
Forrest	2,615	50,906	Leake	339	6,914
Franklin	105	2,070	Lee	2,436	45,875
			Leflore	1,132	22,146
George	248	5,024	Lincoln	866	17,069
Greene	103	2,146	Lowndes	1,850	34,989
Grenada	623	12,971			

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Madison	1,291	25,520	Simpson	520	9,882
Marion	759	14,974	Smith	171	3,358
Marshall	396	7,496	Stone	222	4,307
Monroe	734	14,336	Sunflower	586	10,645
Montgomery	199	3,611			
			Tallahatchie	205	4,332
Neshoba	463	8,709	Tate	344	6,402
Newton	331	6,358	Tippah	341	6,276
Noxubee	151	2,706	Tishomingo	303	5,728
			Tunica	130	2,363
Oktibbeha	718	12,885			
			Union	383	7,193
Panola	567	10,827			
Pearl River	711	13,538	Walthall	243	4,796
Perry	145	2,921	Warren	1,503	28,877
Pike	1,259	23,429	Washington	1,868	34,990
Pontotoc	295	5,734	Wayne	475	9,369
Prentiss	416	8,282	Webster	147	2,725
			Wilkinson	208	3,868
Quitman	127	2,454	Winston	252	3,130
Rankin	2,408	48,545	Yalobusha	218	4,180
			Yazoo	663	13,882
Scott	530	10,624			
Sharkey	147	2,724			
			State Total	70,098	1,348,508

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS

[Seasonally Adjusted]

1969 = 100

Indicator	Feb. 1985	Jan. 1985	Feb. 1984
Retail Sales	159.8	170.9	168.5
Electric Sales	230.5	239.1	215.0
Gasoline Gallonage	205.9	82.2	131.0

GENERAL FUND
Comparing July 1, 1984-February 28, 1985

	February 1985	February 1984
Sales Tax	$42,938,094 (1)	$36,123,660
Use & Wholesale Compensating Tax	6,620,077 (2)	6,963,877
Individual Income Tax	116,667	7,258,573
Corporate Tax	2,925,036	5,765,589
Tobacco Tax	2,297,719	2,140,615
ABC Division	2,596,740	2,148,463
Beer & Wine Tax	1,860,407	1,627,089
Oil Severance Tax	3,070,122	3,881,716
Estate Tax	367,486	1,790,260
Statewide Privilege Tax	113	318
Installment Loan Tax	8,026	2,611
Gas Severance Tax	1,775,000	2,494,491
Insurance Premium Tax	45,000	43,860
Auto Tag Fees	130,839	8,806
Auto Privilege Tax	639,973	438,781
Title Fees	115,123	101,022
Petroleum Tax	484,356	443,773
Admission Tax	4,911	23,422
Timber Severance Tax	—0—	—0—
Slot Vending Tax	243,964	336,636
Pulpwood Scaling Fees	6,123	7,296
Fire Marshal Fees	12	--
Freeport Warehouse Tax	20	—0—
Aircraft Registration Fees	9,069	1,980
Int. on Direct Deposits	19,878	85,231
Tax Commission Transfer to Gen. Fund	$66,274,753	$71,688,072
Tax Comm. Special Fund Transfers	66,699,869	58,184,720
Tax Commission Total Transfers	$132,974,622	$129,872,792

(1) 2% Discount allowed and not included-$569,429

(2) 2% Discount allowed and not included-$ 42,226

Tax Commission Cash Balance February 28, 1985-$23,766,019

Tax Commission Cash Balance February 28, 1984-$32,749,551

TRANSFERS
With July 1, 1983-February 29, 1984

7/1/84 to 2/28/85	7/1/83 to 2/29/84	Increase or Decrease over Prior Year	
		Amount	Percent
$420,731,658 (1)	$335,083,777	$85,647,881	25.56
57,806,969 (2)	66,742,694	(8,935,725)	(13.39)
134,457,215	161,834,642	(27,377,427)	(16.92)
94,081,593	55,516,732	38,564,861	69.47
19,773,981	19,114,122	659,859	3.45
19,716,541	19,966,306	(249,765)	(1.25)
14,862,198	14,403,843	458,355	3.18
31,191,962	31,475,453	(283,491)	(0.90)
6,677,151	6,185,264	491,887	7.95
388,786	388,238	548	0.14
1,837,363	1,613,273	224,090	13.89
17,634,183	19,354,565	(1,720,382)	(8.89)
25,793,238	23,601,485	2,191,752	9.29
3,003,716	3,295,486	(291,770)	(8.85)
2,952,287	2,861,810	(90,477)	3.16
869,289	846,241	23,048	2.72
3,596,498	3,512,968	83,530	2.38
210,818	266,834	(56,016)	(20.99)
—0—	43,569	(43,569)	——
526,997	611,136	(84,139)	(13.77)
65,699	76,259	(10,560)	(13.85)
113,615	112,326	1,289	1.15
190	130	60	46.15
9,762	2,745	7,017	--
221,614	476,378	(254,764)	(53.48)
$856,523,322	$767,386,283	$89,137,039	11.62
424,275,102	362,061,706	62,213,369	17.18
$1,280,798,424	$1,129,447,989	$151,350,435	13.40

(1) 2% Discount allowed and not included-$5,066,033

(2) 2% Discount allowed and not included-$385,468

Food Stamp Participation By County, February, 1985

SOURCE: State Welfare Department

County	Number of Households[2] (Average Allotment $140.45)	Number of Persons[3] (Average Allotment $45.20)	Coupon Value[4] (Average Per Meal $.50)	County	Number of Households[2] (Average Allotment $140.45)	Number of Persons[3] (Average Allotment $45.20)	Coupon Value (Average Per Meal $.50)
Adams	2,783	7,994	382,076	Lincoln	1,993	5,916	264,031
Alcorn	2,263	5,637	248,375	Lowndes	2,650	8,375	374,543
Amite	821	2,805	112,903	Madison	3,479	11,989	552,998
Attala	1,652	5,015	206,900	Marion	1,625	5,124	237,566
Benton	798	2,686	113,407	Marshall	3,015	10,023	442,919
Bolivar	4,301	15,957	706,030	Monroe	1,989	5,928	252,255
Calhoun	1,054	2,853	116,760	Montgomery	1,299	3,630	147,641
Carroll	826	2,382	98,841	Neshoba	1,542	4,345	178,261
Chickasaw	975	2,634	99,505	Newton	1,223	3,362	131,648
Choctaw	692	1,998	80,937	Noxubee	1,584	5,431	235,069
Claiborne	1,092	3,622	168,835	Oktibbeha	2,023	6,276	285,805
Clark	1,012	2,732	114,458	Panola	2,516	9,045	390,010
Clay	1,503	4,695	213,291	Pearl River	2,101	6,076	293,819
Coahoma	3,699	13,076	601,825	Perry	1,075	2,987	133,903
Copiah	1,834	5,819	256,987	Pike	2,485	7,459	350,728
Covington	1,159	3,808	161,972	Pontotoc	1,067	2,606	105,760
DeSoto	1,901	6,351	275,926	Prentiss	1,250	3,209	134,111
Forrest	4,175	11,046	564,940	Quitman	1,334	4,879	209,983
Franklin	829	2,289	101,775	Rankin	1,941	5,759	255,691
George	1,107	3,277	181,077	Scott	1,612	4,851	206,988
Greene	966	2,932	139,668	Sharkey	890	3,439	142,322
Grenada	1,142	3,519	162,410	Simpson	1,313	3,767	159,757
Hancock	1,891	5,257	261,926	Smith	850	2,503	95,103
Harrison	6,470	19,617	974,039	Stone	674	2,138	95,612
Hinds	13,726	40,825	2,022,685	Sunflower	2,698	10,901	462,650
Holmes	3,429	11,229	518,017	Tallahatchie	1,746	6,703	287,078
Humphreys	1,151	4,451	188,524	Tate	1,384	4,315	178,645
Issaquena	232	840	31,543	Tippah	1,363	3,757	159,116
Itawamba	773	1,835	73,682	Tishomingo	1,217	3,018	129,968
Jackson	4,822	15,344	804,013	Tunica	1,338	4,947	214,185
Jasper	1,278	3,990	163,950	Union	1,075	2,890	115,357
Jefferson	884	2,831	123,581	Walthall	1,179	3,932	170,269
Jeff Davis	1,321	4,003	369,017	Warren	3,062	8,966	438,375
Jones	3,087	8,791	369,017	Washington	5,155	21,483	1,005,081
Kemper	736	2,451	101,346	Wayne	1,670	4,985	222,050
Lafayette	1,055	3,059	125,994	Webster	713	1,876	78,753
Lamar	1,553	4,332	200,819	Wilkinson	1,088	3,363	141,777
Lauderdale	4,047	12,003	568,629	Winston	1,737	5,080	213,149
Lawrence	825	2,381	99,204	Yalobusha	1,017	2,878	117,726
Leake	1,780	4,982	218,689	Yazoo	2,682	8,813	387,477
Lee	2,131	5,750	258,196				
Leflore	3,008	10,598	455,500	State Total	162,434	504,720	22,814,249

[1]Meals are on a state-wide basis and is computed on an average 30 day month and 3 meals per day for a total of 90 meals in one month.
[2]Average Allotment for Households is determined by dividing state total by number of state total of households.
[3]Average Allotment for Persons is determined by dividing state total by total number of person.
[4]Average per meal is determined by dividing the average allotment per person ($45.20) by total number of average meals a month (90)

Mississippi Agriculture Report
February, 1985

The February 15, 1985 Index of Prices Received by Mississippi farmers for all commodities was unchanged at 107 percent of its January-December 1977 average. The **All Crops Index** was down 3 points (3 percent) at 84 percent of its January-December 1977 average. The **Livestock Products Index** was up 5 points (4 percent) at 139 percent of its January-December 1977 average.

PRICES RECEIVED AND PAID BY FARMERS--MISSISSIPPI

COMMODITY	UNIT	Feb 15 1984	Jan 15 1984 3/	Feb 15 1985
		Dollars		
PRICES RECEIVED				
Rice 4/	Cwt.	8.85	8.09	7.91
Soybeans	Bu.	7.52	6.03	5.65
Cotton	Lb.	.671	.538	.533
Cottonseed	Ton	7/	7/	7/
Hogs 4/	Cwt.	45.40	48.00	49.60
Cows	Cwt.	36.90	35.30	36.10
Steers & Heifers	Cwt.	59.60	52.20	56.80
Beef Cattle	Cwt.	47.20	43.00	46.60
Calves	Cwt.	61.70	60.00	64.60
Milk Cows 1/	Head	6/	840.00	6/
All Milk, Whsl.	Cwt.	14.30	15.20	15.00
Fluid	Cwt.	14.40	15.30	---
Mfg.	Cwt.	12.50	12.30	---
Comm. Broilers 2/	Lbs.	.380	.320	.315
Eggs	Doz.	.763	.398	.465
PRICES PAID FOR FEED				
Hog Feed, 14-18% Protein	Cwt.	12.50	10.80	11.70
Beef Cattle Concentrate, 32-36% Protein	Cwt.	13.00	12.00	12.00
Cottonseed Meal, 41% Protein	Cwt.	14.50	10.50	10.50
Soybean Meal, 44% Protein	Cwt.	14.50	11.50	12.50
Dairy Feed, 16% Protein	Ton	205.00	168.00	167.00
Chick Starter	Ton	200.00	169.00	167.00
Laying Feed	Ton	215.00	136.00	138.00
Broiler Grower	Ton	191.00	162.00	164.00

1/ Animals sold for dairy herd replacement only. 2/ Liveweight equivalent. 3/ Prices for rice, milk, soybeans, cotton and livestock relate to the average prices for all sales during the month. 4/ U.S. Price. 5/ Market (table) eggs, including eggs sold retail by producers. 6/ Prices published January, April, July and October, 7/ Insufficient sales.

SOURCE: Mississippi Crop and Livestock Reporting Service, Mississippi Department of Agriculture and Commerce.

BUSINESS ACTIVITY BY CITY

	City Sales Tax Collections			Building Permits		
	Current Month Feb.	PerCent Month Ago	Change Year Ago	Current Month Feb.	Month Ago	Year Ago
Aberdeen	47,128	—24.8	7.5	-0-	280,100	161,460
Baldwyn	22,154	—15.5	—8.3	-0-	-0-	18,500
Batesville	82,332	—28.0	—4.3	104,803	168,600	123,095
Bay Springs	26,217	—13.3	45.1	— —	— —	— —
Bay St. Louis	42,866	—31.1	1.9	— —	— —	— —
Belmont	10,460	—3.0	—16.8	— —	— —	— —
Belzoni	26,805	—33.1	—0.8	11,500	17,000	27,500
Biloxi	298,144	—29.3	5.4	311,875	3,797,255	3,933,273
Brandon	56,398	3.8	24.4	— —	— —	371,000
Brookhaven	131,513	—30.7	4.3	247,200	305,500	129,995
Brooksville	3,204	—8.2	—12.8	— —	— —	— —
Canton	68,354	—23.2	—4.3	— —	— —	— —
Carthage	46,778	—27.0	1.8	28,600	569,025	125,000
Charleston	18,506	—20.6	11.9	— —	— —	— —
Clarksdale	131,229	—26.6	—16.8	— —	1,496,275	176,657
Cleveland	110,968	—14.5	1.4	— —	— —	— —
Collins	38,838	—8.7	8.6	— —	— —	310,000
Columbia	107,749	—23.5	7.0	— —	— —	— —
Columbus	281,842	—27.9	3.0	179,270	150,465	421,339
Corinth	122,583	—26.4	—4.8	84,750	41,700	158,995
Crystal Springs	23,701	—24.6	—18.8	-0-	137,000	15,600
Drew	9,658	—33.7	—10.1	0-	44,000	-0-
Edwards	4,167	—19.1	4.2	6,000	111,900	105,500
Ellisville	17,843	-8.5	44.6	— —	— —	— —
Eupora	17,818	—33.9	6.3	— —	— —	— —
Fayette	10,618	—21.0	15.0	— —	— —	— —
Forest	57,353	—20.7	18.8	8,000	15,000	153,500
Greenville	279,175	—30.4	0.7	-0-	70,207	-0-
Greenwood	164,180	—29.0	11.8	386,000	222,000	341,900
Grenada	98,980	—25.6	—2.7	204,000	303,844	246,000
Gulfport	319,927	—15.5	3.0	1,577,043	1,791,018	1,688,214
Hattiesburg	448,519	—21.9	10.3	-0-	752,947	1,616,545
Hernando	27,731	—13.9	32.4	-0-	68,200	3,300
Hollandale	14,259	—19.0	27.3	-0-	49,000	-0-
Holly Springs	44,080	-29.6	0.8	66,000	-0-	-0-
Houston	35,344	—33.6	—8.5	1,100	165,900	79,700
Indianola	63,598	—33.0	—2.7	— —	— —	— —
Iuka	26,646	—33.2	—4.4	— —	— —	— —
Jackson	1,818,778	—25.7	13.1	5,413,727	10,562,027	6,503,324
Kosciusko	60,103	—30.1	2.1	— —	— —	— —
Laurel	331,919	—27.4	12.2	462,282	722,250	4,219,558
Leland	20,322	—24.5	—3.1	— —	— —	— —
Lexington	19,586	—32.4	—13.7	— —	— —	— —
Louisville	54,595	—27.8	6.3	317,280	155,700	163,620
Lucedale	33,782	—28.7	0.5	38,300	647,100	139,000
Lumberton	11,745	—13.2	10.9	— —	— —	— —
Macon	13,922	—33.8	—17.8	— —	— —	— —
Magee	51,938	—29.9	0.8	— —	— —	— —
Magnolia	9,223	—29.3	—11.7	18,000	51,300	— —
Marks	13,574	—35.5	—14.4	— —	— —	— —
McComb	160,883	—22.7	12.6	33,900	189,100	92,600
Meadville	6,157	—16.0	—23.5	-0-	-0-	70,000
Mendenhall	26,066	2.3	24.4	-0-	170,072	-0-
Meridian	447,218	—26.4	—11.8	324,881	1,010,551	650,339
Monticello	28,072	12.7	29.1	— —	— —	17,000
Morton	23,684	-9.8	11.8	— —	— —	— —
Moss Point	59,158	—20.3	—20.5	203,558	344,900	176,602
Natchez	245,016	—26.1	4.8	117,500	582,400	1,014,590
New Albany	82,679	—34.3	—1.6	129,770	271,334	315,800
Newton	48,768	35.2	96.1	213,000	71,000	115,000
Ocean Springs	89,668	0.2	10.2	— —	— —	436,814
Okolona	15,428	—22.1	—0.6	16,164	40,750	37,900
Oxford	115,619	—24.5	10.7	204,581	43,000	308,300
Pascagoula	212,954	—9.3	—14.8	1,319,967	153,287	176,306
Pass Christian	16,555	—12.8	17.3	— —	— —	— —
Philadelphia	70,342	—26.5	0.6	— —	— —	— —

BUSINESS ACTIVITY BY CITY

	City Sales Tax Collections			Building Permits		
	Current Month Feb.	PerCent Month Ago	Change Year Ago	Current Month Feb.	Month Ago	Year Ago
Picayune	99,117	—22.3	9.0	476,000	552,000	255,000
Pontotoc	43,784	—33.0	1.9	21,870	-0-	961,000
Poplarville	17,597	—20.2	—10.5	56,300	-0-	47,000
Port Gibson	16,043	—21.3	—5.7	——	——	——
Prentiss	31,161	—4.3	32.8	124 000	8,000	10310
Quitman	28,450	—16.7	—5.1	——	——	——
Raymond	5,524	—9.2	—23.3	——	——	——
Richton	12,148	—38.9	17.7	-0-	-0-	1,000
Rosedale	9,981	28.3	14.7	——	——	——
Ruleville	10,704	—30.5	3.8	——	——	——
Sardis	11,962	—33.9	—28.7	-0-	45,000	3,000
Senatobia	54,428	—30.5	15.2	-0-	70,700	32,500
Shelby	11,147	7.8	30.7	——	——	——
Starkville	124,899	—17.5	8.6	408,000	1,492,000	736,200
Summit	14,685	—11.2	49 0	——	——	——
Taylorsville	13,429	—16.5	6.6	——	——	——
Tchula	3,766	—45.0	—15.5	——	——	——
Tunica	17,003	—25.2	2.7	——	——	——
Tupelo	322,178	—31.5	—9.5	1,744,532	814,208	1,972,244
Union	12,799	—43.5	—19.4	——	——	——
Utica	11,114	—3.8	23.2	——	——	——
Vicksburg	223,389	—24.8	7.2	815,240	1,492,090	7,098,552
Walnut Grove	1,456	—27.1	28.4	——	——	——
Water Valley	26,887	—16.8	4.2	——	——	——
Waynesboro	58,994	—22.3	3.4	17,000	3,500	58,000
West Point	57,677	—25.2	—4.0	123,351	124,355	40,815
Wiggins	36,376	15.0	49.2	——	——	59,000
Winona	30,772	—40.4	—0.7	-0-	35,500	-0-
Yazoo City	86,841	—22.0	35.8	-0-	56,000	87,000

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON [Hinds and Rankin Counties]	February 1985	January 1985	February 1984	Per Cent Month Ago	Change Year Ago
MANPOWER DATA					
Civilian Labor Force	177,000	177,500	171,300	—0.3	3.3
Unemployed Persons	12,200	12,700	13,400	—3.9	—9.0
Per Cent of Labor Force	6.9	7.2	7.8	——	——
Employed Persons	164,800	164,800	157,900	-0-	4.4
Non-Ag Wage & Salaries	142,500	142,300	135,600	0.1	5.1
Manufacturing	21,000	21,200	20,900	—0.9	0.5
CITY SALES TAX COLLECTIONS	1,895,981	2,526,319	1,673,042	—25.0	13.3

BILOXI-GULFPORT [Hancock, Harrison and Stone Counties]	February 1985	January 1985	February 1984	Per Cent Month Ago	Change Year Ago
MANPOWER DATA					
Civilian Labor Force	72,590	72,900	70,300	—0.4	3.3
Unemployed Persons	7,040	7,480	7,750	—5.9	——
Per Cent of Labor Force	9.7	10.3	11.0	——	——
Employed Persons	65,550	65,420	62,550	0.2	4.8
Non-Ag Wage & Salaries	55,950	55,750	52,990	0.4	5.6
Manufacturing	9,320	9,410	9,250	—1.0	0.8
CITY SALES TAX COLLECTIONS	634,626	819,345	607,526	—22.5	4.5

STATE ECONOMIC INDICATORS

Indicator	Feb. 1985[1]	Jan. 1985[2]	Feb. 1984[2]	Per Cent One Month Ago[3]	Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	952,200	949,100	929,100	0.3	2.5
Non-Ag Employment	834,900	831,900	806,000	3.0	28.9
Mining	9,000	9,300	9,100	—0.3	—0.1
Contract Construction	37,100	35,700	34,200	1.4	2.9
Manufacturing	219,600	219,100	214,600	0.5	5.0
Transportation and Public Utilities	39,400	39,200	38,000	0.2	1.4
Wholesale and Retail Trade	178,600	179,100	166,900	—0.5	11.7
Finance, Insurance and Real Estate	34,400	34,400	33,400	-0-	1.0
Service	127,300	126,200	124,600	1.1	2.7
Government	189,600	188,800	185,200	0.8	4.4
Unemployment Rate (Per Cent Labor Force)	10.4	10.8	10.9	——	——
Average Weekly Earnings in Manufacturing (Dollars)	296.12	291.72	281.24	1.5	5.3
Average Hourly Earnings in Manufacturing (Dollars)	7.24	7.15	6.91	1.3	4.8
Average Weekly Hours in Manufacturing	40.9	40.8	40.7	0.2	0.5
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,730	2,696	2,713	1.3	0.6
Gasoline Delivered to Dealers (gals.)[6]	152,207	70,647	98,661	115.4	54.3
PUBLIC UTILITY					
Sales of Electricity (000's KWH)[7]	1,916,597	2,121,014	1,827,075	—9.6	4.9
RETAIL SALES (000's)[8]	1,254,537	1,607,948	1,234,856	—22.0	1.6

Indicator	Nov. 1984	Oct. 1984	Nov. 1983	Per Cent One Month Ago	Change One Year Ago
AGRICULTURE (000's)[9]					
Total Cash Receipts from Farm Marketings	380,528	324,503	463,966	17.3	—18.0
Cash Receipts from Marketing Livestock	77,733	80,824	84,656	—3.8	—8.2
Cash Receipts from Marketing Crops	302,795	243,679	379,310	24.3	—20.2

[1]Preliminary

[2]Revised

[3]Percent change calculated with revised figures; not comparable with previously published data.

[4]Mississippi Employment Security Commission

[5]State Oil and Gas Board for October

[6]Mississippi Motor Vehicle Comptroller

[7]Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority.

[8]Mississippi Tax Commission

[9]U.S. Department of Agriculture